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Bureau of Land and Waste
Management

Division of Compliance and
Enforcement



MAKING A HAZARDOUS WASTE DETERMINATION



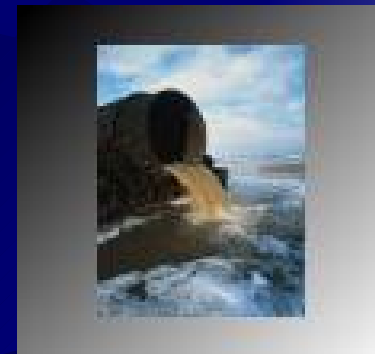
Hazardous Waste Identification

Generators are required to Accurately determine if the wastes they generate are hazardous.

- 1. Determine if waste is excluded.**
- 2. Determine if the waste is listed.**
- 3. If waste is not listed, test it or apply knowledge of the hazard characteristics.**
- 4. If it is hazardous, refer to parts 261, 264, 265, 266, & 268 for possible exclusions.**
- 5. Determine if waste is a special waste as designated by the State in Appendix XI of 261.**

Excluded Wastes

- Domestic sewage
- NPDES regulated wastewaters
- Secondary materials that have been reclaimed & returned to original process
- Certain wood preserving solutions





Listed Wastes

➤ Hazardous wastes from non-specific sources

Example: Spent solvents, wastewater treatment sludges from plating operations. Hazardous wastes from non-specific listed sources are F-listed.

➤ Hazardous waste from specific sources

Example: Pink/red water from TNT operations (K047), or Emission control dust /sludge from the primary production of steel in electric furnaces (K061). Hazardous wastes from specific sources are K-listed.



Listed Wastes(continued)

- Discarded commercial chemical products, off-specification species, container residues, and spill residues thereof

Examples: A container of Dimethoate (P044) that has exceeded shelf life or a drum of copper cyanide (P029) that you no longer intend to use. These types of waste are P-listed.

- Listed toxic wastes

Examples: Acetone (U002), or xylene (U239). These toxic wastes are U-listed.

Characteristic Wastes

- **Characteristic of ignitability**
- **Characteristic of corrosivity**
- **Characteristic of reactivity**
- **Characteristic of toxicity**



Characteristic of Ignitibility



➤ **Wastes exhibit this characteristic if...**

It is a liquid (other than an aqueous solution containing less than 24% alcohol), and has a flash point less than 140 degrees Fahrenheit.

It is not a liquid and is capable under STP of causing a fire through friction, absorption of moisture, or spontaneous changes and, when ignited burns so violently that it creates a hazard.

Ignitability (continued)



It is an ignitable compressed gas as defined in 49 CFR 173.300.

It is an oxidizer as defined in 49 CFR 173.151.

Wastes that exhibit the characteristic of ignitability have the EPA waste code of D001.

Characteristic of Corrosivity



Wastes exhibit this characteristic if...

It is a liquid and has a pH less than or equal to 2 or greater than or equal to 12.5.

It is a liquid and corrodes steel (SAE 1020) at a rate greater than 0.25 inches per year at 130 degrees Fahrenheit.

Wastes that exhibit the characteristic of corrosivity have the EPA waste code D002.

Characteristic of Reactivity



Wastes exhibit this characteristic if...

- **It is normally unstable and readily undergoes violent change without detonation.**
- **It reacts violently with water.**
- **It forms explosive mixtures with water.**
- **When mixed with water, it generates toxic gasses, fumes, or vapors.**
- **It is a cyanide or sulfide bearing waste, which when exposed to corrosive conditions, can generate toxic gasses, fumes, or vapors.**

Reactivity (continued)



- It is readily capable of detonation or explosive reaction if it is subjected to a strong initiating source or if heated under confinement.
- It is a forbidden explosive as defined in 49 CFR 173.51, or a Class A explosive as defined in 49 CFR 173.53, or a class B explosive as defined in 49 CFR 173.88.
- Wastes that exhibit the reactivity characteristic have the EPA waste code D003.

Toxicity Characteristic



Waste exhibits this characteristic if...

- **The extract from a representative sample of the waste, using the Toxicity Characteristic Leaching Procedure, contains any of the contaminants listed in Table I (in 261.24 of the South Carolina Hazardous Waste Management Regulations) at the concentration equal to or greater than the respective value given in the Table.**
- **Wastes exhibiting the toxicity characteristic have the waste codes D004-D043.**



GENERATOR STATUS AND REGULATORY REQUIREMENTS

South Carolina Recognizes Three Categories of Hazardous Waste Generators

- **Conditionally Exempt (CESQG) – Generates less than 220 lbs of hazardous waste in a CALENDAR month**
- **Small Quantity Generator (SQG) – Generates between 220, & 2200 lbs/ CALENDAR month**
- **Large Quantity Generator (LQG) – Generates more than 2200 lbs/CALENDAR month**
- **Accurately determining your generator status will assist you in complying with the proper regulatory requirements.**



Notification Requirements

- Everyone who handles hazardous Waste in SC is required to notify the Department of their hazardous waste activity (except Conditionally Exempt Small Quantity Generators).
- Notification is made using SCDHEC form 2701.
- Re-notify anytime anything changes.





Generator Fees

- **CESQG – No fee**
- **SQG - \$500.00 per year**
- **LQG (under 100 tons/year) - \$1000.00 per year**
- **LQG (100 tons/year and over) - \$1000.00 per year plus \$1.50/ton (paid quarterly) not to exceed \$15,000.00**
- **Companies paying \$10.00/ton incinerator fee are exempt.**
- **Fees are paid for State Fiscal Year based on generator status established by January 31st of each calendar year.**



Accumulation Areas

- Waste can be accumulated in satellite areas with minimal regulatory burden.
- The waste must be under the control of the operator.
- The waste must be at or near the process generating the waste.
- There is a 55 gallon accumulation limit.
- Excess of 55 gallons must be removed within 72 hours.
- Containers must be marked, “Hazardous Waste”, or with words that identify the contents of the containers.



Storage Areas

- LQGs can accumulate waste onsite for 90 days or less.
- SQGs can accumulate for 180 days or less.
- If SQGs exceed 180 days or 13,200 lbs (2.2 lbs of acute waste) in storage they become subject to Treatment, Storage, Disposal Facility (TSDF) standards.
- CESQGs cannot accumulate more than 2,200 lbs of hazardous waste or 2.2lbs of acute waste at any time.
- If CESQGs exceed limits, they become subject to SQG requirements.

Secondary Containment

LQGs must have secondary containment for wastes in storage that contain free liquids.

- **Containment must be sufficiently impervious to contain leaks and spills.**
- **Must be designed to remove liquids from spills, unless containers are protected from contact with accumulated liquids.**
- **Must have sufficient capacity to contain 10% of the total volume or 100% of the volume of the largest container.**



Use and Management of Containers



- Containers must be in good condition.
- Containers must be compatible with waste.
- Containers must always be kept closed.
- Containers must not be handled in anyway that will cause them to leak.

Use and Management of Containers(continued)

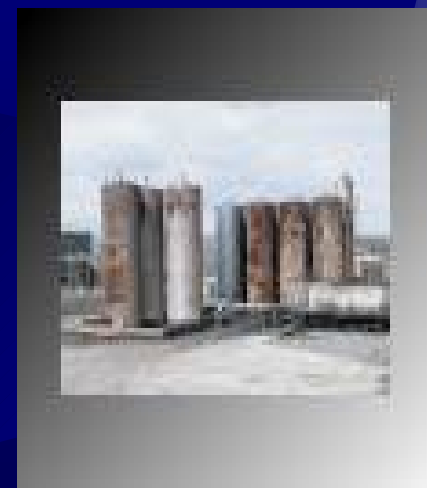


- Containers must be permanently and legibly marked with the following statement: “Hazardous Waste – federal laws prohibit improper disposal.”
- Containers must also be marked with appropriate EPA waste codes.
- Areas where containers are stored must be inspected weekly for leaks and deterioration.



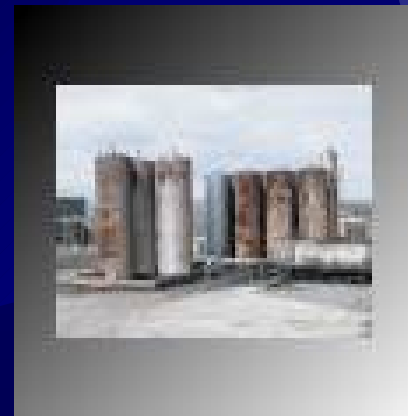
Storage Tanks

- **Storage tanks require P.E. certification.**
- **Storage tanks require secondary containment.**
- **Storage tanks must be labeled.**
- **Storage tanks must be inspected weekly.**
- **Ancillary equipment w/o secondary containment must be inspected daily.**



Air Emissions From Hazardous Waste Storage Containers & Tanks

- Certain air emission control standards apply to tanks and containers.

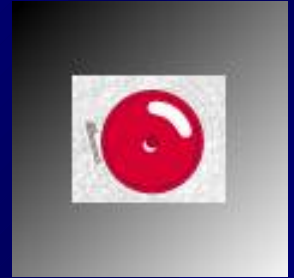


Preparedness and Prevention

- These apply to SQGs and LQGs

Must have...

- An adequate alarm or communication system
- A device capable of summoning emergency personnel
- Portable fire control equipment
- Adequate water pressure to operate fire control system
- Adequate testing and maintenance of all emergency systems



Preparedness & Prevention (continued)

- **Access to communication or alarm system**
- **Adequate aisle space for emergency response**
- **An arrangement with local emergency response authorities**





Contingency Plan

Applies only to large quantity generators

- **The plan must be...**
- **Designed to minimize hazards from fires, explosions, or any unplanned release of hazardous waste**
- **Plan must be maintained onsite and submitted to all local emergency services providers**
- **Must designate a primary emergency coordinator & have home & work numbers and addresses for all persons qualified to act as emergency coordinators.**

Contingency Plan

(continued)

- **Must describe actions to be taken in an emergency**
- **SPCC plans can be amended to serve as contingency plan**
- **Must include list of all emergency equipment at the facility**
- **Must include an evacuation plan**



SQG Requirements

SQGs are not required to prepare a formal contingency plan. They are required to do the following:

- **Designate an emergency coordinator**
- **Post the following information next to the telephone:**
 - **The name and telephone number of the emergency coordinator**
 - **The location of fire extinguishers and spill control equipment , and if present, fire alarm**
 - **The telephone number of the fire department, unless the facility has a direct alarm**

Personnel Training Requirements for LQGs

- Personnel must complete a program of classroom or “On the Job Training.”
- The program must be directed by a person trained in hazardous waste management procedures.
- The program must be designed to ensure that personnel are able to respond effectively to emergencies.





Training (continued)

- **Must include where applicable:**
- **Procedures for using, inspection & repairing emergency equipment**
- **Automatic waste feed cutoff systems**
- **Use of communication & alarm systems**
- **Response to fires & explosions**
- **Response to groundwater contamination**
- **Shutdown of operations**
- **Training must be given within 6 months of the date of hire. Refresher training must be given annually.**



Training Documentation

The following records must be maintained:

- **The job title for each job relating to hazardous waste management**
- **A written job description**
- **A description of the type and amount of training given to each person**
- **Records documenting the training**
- **Records must be kept on current employees until closure, former employees for three years.**



SQG Training Requirements

SQGs are only required to ensure that employees are familiar with hazardous waste management procedures relevant to the positions in which they are employed.

Pre-transport Requirements

- Before transporting or offering for transportation, hazardous waste must be packaged according to applicable DOT regulations on packaging under 49 CFR parts 173,178,and 179.
- Must be labeled according to applicable DOT regulations on hazardous materials under 49 CFR part 172.



Pre-transport (continued)

Each container of 119 gallons or less must be marked with the following words and information in accordance with the requirements of 49 CFR 172.304.

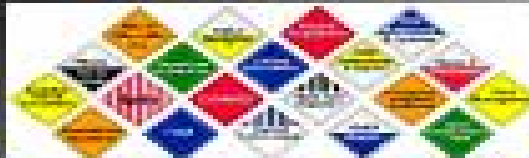
“Hazardous Waste – federal law prohibits improper disposal. If found contact the nearest police or public safety authority or the U.S.Environmental Protection Agency”

- **Generator's name & address**
- **Manifest document #**
- **Accumulation start date**
- **EPA hazardous waste number**



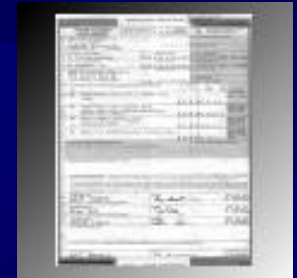
Pre-transport (continued)

- Generators must placard or offer the initial transporter the appropriate placards according to Department of Transportation regulations for hazardous materials under 49 CFR part 172, subpart F.



Manifest Requirements

Generators must:



- **Designate one facility which is permitted to handle his waste**
 - **Sign certification by hand**
 - **Obtain initial transporters signature and date of acceptance**
 - **Retain one copy**
- ❖ **Special exemption for SQG's whose waste is reclaimed under a contractual agreement.**



Land Disposal Restrictions Notification

Generators must notify Treatment, Storage, Disposal, Facilities of any wastes being sent that require special treatment before being land disposed, if wastes meet treatment standards, or are otherwise exempt.

- **No special form**
- **One time notification, unless process generating waste changes.**



Waste Minimization Requirements

- LQG's are required to have a program in place to reduce the volume and toxicity of waste generated to the degree economically practicable. They will also receive and be required to submit an annual waste minimization report for the Department.
- LQG's & SQG's must sign a certification of waste minimization on manifests.
- SQG's must make a good faith effort to minimize waste generated.



REPORTING REQUIREMENTS

- **LQG's submit quarterly reports of all hazardous waste activity on forms designated by the Department.**
- **SQG's only submit annual declaration that they are still an SQG and that if status changes they will comply with LQG requirements.**
- **Both must resubmit Notification form anytime new wastes are generated, or if company contact information changes.**



End of First Session



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Overview of Universal Waste Regulations

- **Streamlines hazardous waste management standards to ease regulatory burden for those who manage universal wastes**
- **Facilitate proper recycling**
- **Intended to keep universal wastes out of landfills**



What are Universal Wastes?

- **Batteries**
- **Pesticides**
- **Mercury Containing Equipment**
- **Lamps**



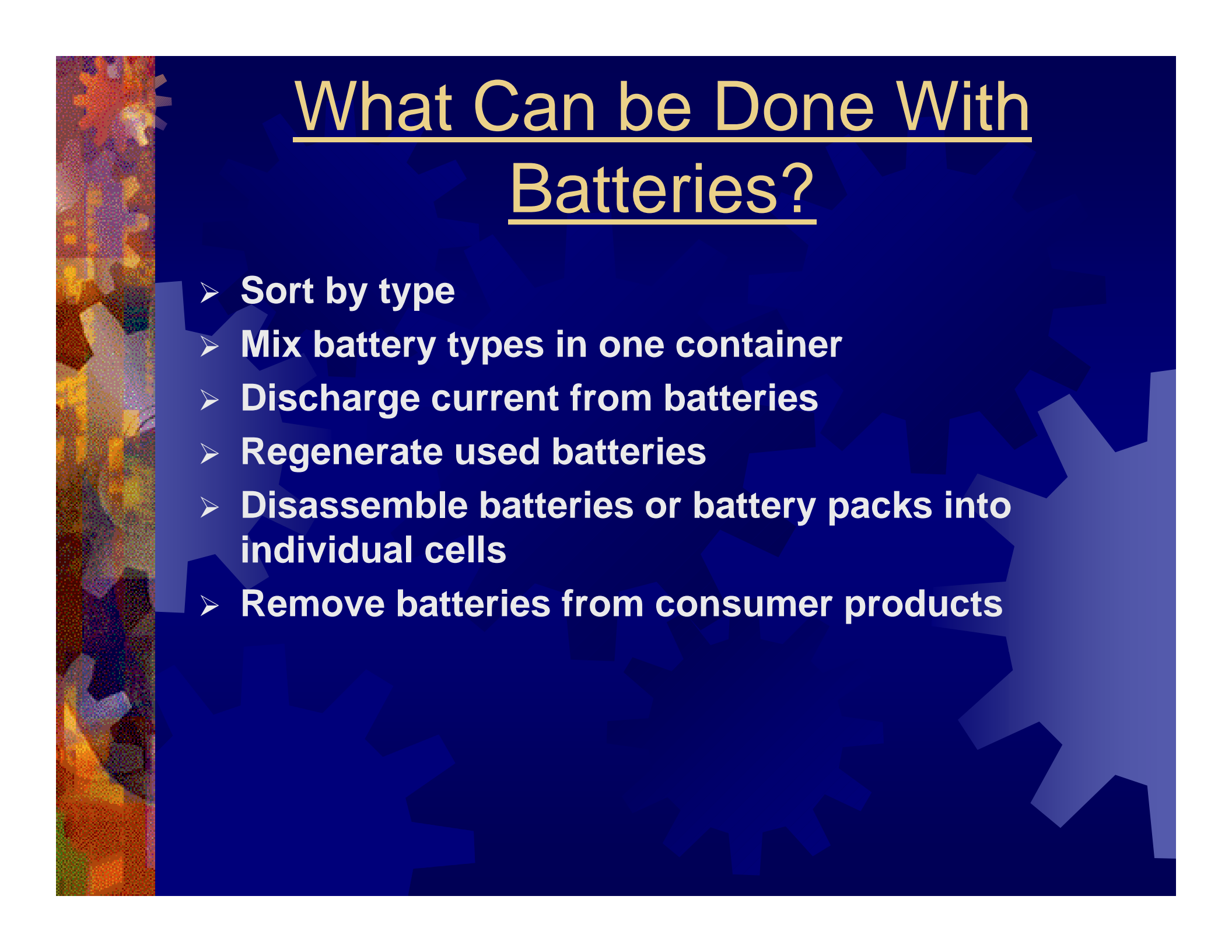
Batteries Defined

- **A universal waste battery is a device consisting of one or more electrically connected electrochemical cells designed to receive, store, and deliver electric current.**



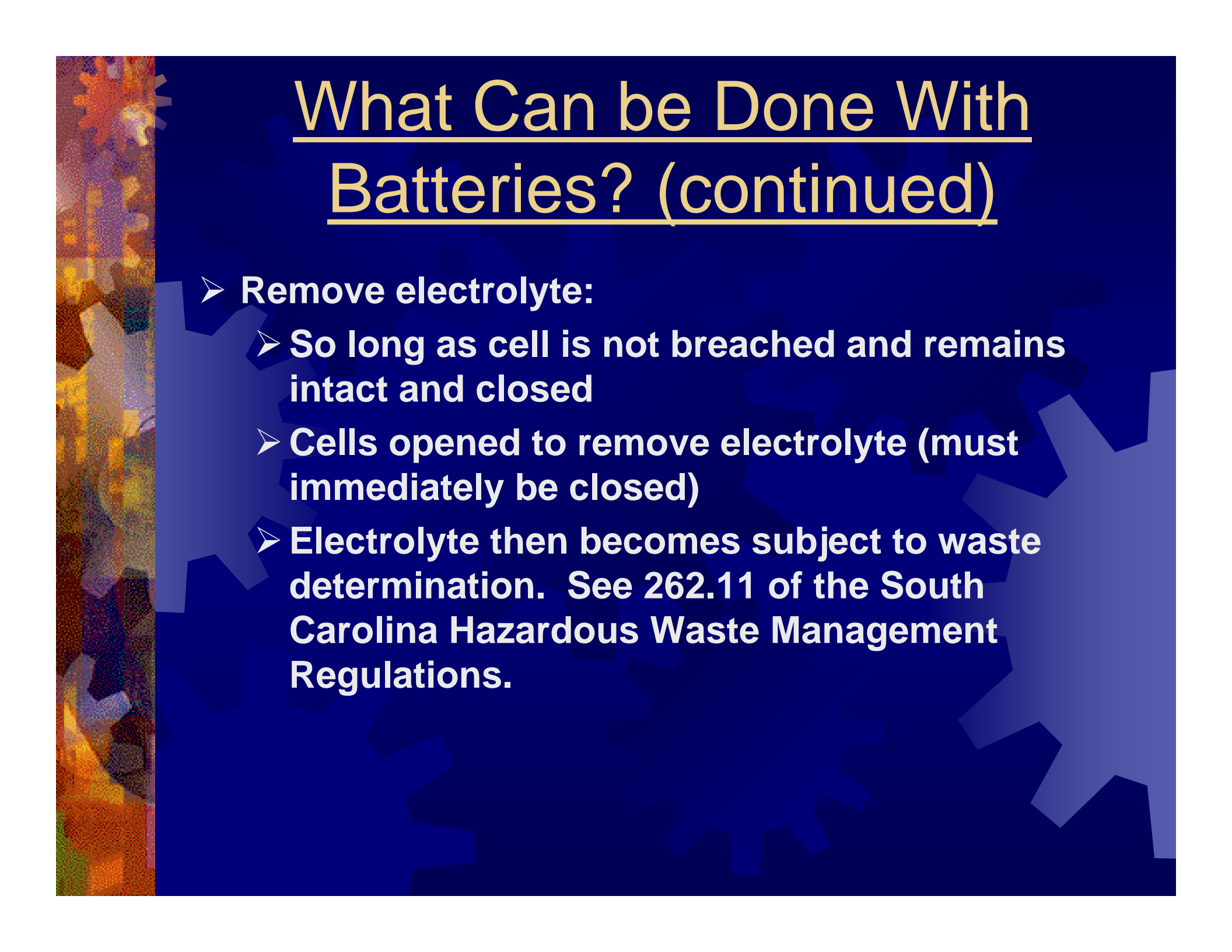
Types of Batteries Covered

- **All types of batteries are covered, that would be a hazardous waste if disposed of and not recycled.**
- **Lead acid batteries are covered but may also be managed as “spent lead acid batteries being reclaimed” See Subpart G of the South Carolina Hazardous Waste Management Regulations.**



What Can be Done With Batteries?

- Sort by type
- Mix battery types in one container
- Discharge current from batteries
- Regenerate used batteries
- Disassemble batteries or battery packs into individual cells
- Remove batteries from consumer products



What Can be Done With Batteries? (continued)

- **Remove electrolyte:**
 - **So long as cell is not breached and remains intact and closed**
 - **Cells opened to remove electrolyte (must immediately be closed)**
 - **Electrolyte then becomes subject to waste determination. See 262.11 of the South Carolina Hazardous Waste Management Regulations.**



Battery Labeling Requirements

- Batteries may be labeled either:
 - “Universal waste – Battery(ies)”
 - “Waste Battery(ies)”
 - “Used Battery(ies)”



Pesticides Defined

- **A universal waste pesticide is a substance or mixture of substances intended for preventing , destroying, repelling, or mitigating any pest or intended for uses as a plant regulator, defoliant, desiccant, and certain other animal drugs and feeds.**



Types of Pesticides Covered

- **Pesticides that are:**
 - **Stocks of a suspended and canceled pesticide that are part of a mandatory or voluntary recall under FIFRA. (e.g., Parathion)**
 - **Stocks of a suspended or cancelled pesticide, or a pesticide that is not in compliance with FIFRA, that are part of a voluntary recall by the registrant. (e.g., Dursban for Lawn & Garden uses)**
 - **Unused pesticide as part of a waste pesticide collection program**



What Can be Done with Universal Waste Pesticides?

- **Manage in such a way to prevent releases:**
 - **In containers, or**
 - **Tanks (must meet hazardous waste storage requirements), or**
 - **Transport vehicles (subject to Department of Transportation requirements)**



Universal Waste Pesticide Labeling Requirements

- **Universal waste pesticides must be labeled with either:**
 - **The original product label, or**
 - **“Universal Waste Pesticide(s)”, or**
 - **“Waste Pesticide(s)”.**



Mercury Containing Equipment Defined

- **Mercury containing equipment means a device or part of a device (including thermostats, but excluding batteries and lamps) that contains elemental mercury integral to its function.**



What Can be Done With Mercury Containing Equipment?

- **Contain any ampules from mercury containing equipment that show evidence of leakage.**
- **Ampules may be removed from mercury containing equipment if:**
 - **Removed in a way to prevent breakage, or**
 - **Removed over a containment device, and**
 - **A mercury spill cleanup system is readily available.**



What Can be Done with Mercury Containing Equipment (continued)

- Any spilled mercury must be immediately transferred to a hazardous waste storage container
- Area used must meet OSHA exposure limits for mercury
- Ampules must be stored in closed containers which are in good condition
- Containers must contain adequate packing material to prevent breakage



Mercury Containing Equipment (continued)

- If the mercury containing equipment does not involve an ampule, the handler may open the original housing and remove the mercury provided that;
- The handler immediately reseals the original housing air-tight to prevent any releases, and
- Follows all the requirements for removing ampules.



Mercury Switches from Automobiles

- One of the most common types of mercury containing equipment are switches from autos
- May be handled through participation in ELVS
- ELVS stands for “End of Life Vehicle Solutions”
- ELVS is a national program for vehicle and scrap metal recyclers
- South Carolina participates through the South Carolina Recyclers and Dismantlers Association and the SC Department of Revenue



Mercury Switches from Automobiles (continued)

- What you get by participating in this program is:
- Collection buckets
- Educational materials
- Shipment of switches to recyclers
- All the above FREE
- And a tax credit for each switch shipped (to claim your tax credit, go to the SC Dept. of Revenue's web site at www.sctax.org and search for current year tax form SC SCH TC-32)




Universal Waste Lamps Defined

- **The bulb or tube portion of an electric lighting device specifically designed to produce radiant energy in the ultra-violet, visible & infrared regions of the electromagnetic spectrum.**



Types of Lamps Included

- **The South Carolina Hazardous Waste Management Regulations give the following examples:**
 - **Fluorescent**
 - **High Intensity Discharge**
 - **Neon**
 - **Mercury vapor**
 - **High pressure sodium**
 - **Metal halide**



Types of Lamps Included (continued)

- **Any lamp that when disposed of and not recycled, exhibits any characteristic of hazardous waste.**



What Must be Done With Universal Waste Lamps?

- **Manage them in such a way as to prevent breakage.**
- **Store them in containers that are structurally sound and adequate to prevent breakage.**
- **Store them in closed containers.**
- **Immediately cleanup any broken lamps**
 - **Broken lamps are subject to a hazardous waste determination.**



Universal Waste Lamp Labeling Requirements

- “Universal waste –Lamp(s)”
- “Waste Lamp(s)”
- “Used Lamps(s)”



Different Types of Universal Waste Handlers

- **Small quantity**
- **Large quantity**
- **Destination facility**
- **Transporter**
- **Transfer facility**



Small Quantity Handler

- **Accumulates no more than 11,000 lbs of universal waste at any time.**
- **May accumulate for up to one year.**
- **Must ensure that employees are familiar with handling procedures.**
- **Not required to keep records of shipments.**



Large Quantity Handler Requirements

- **May accumulate greater than 11,000 lbs for up to one year.**
- **Required to notify Department of Universal Waste activity and get an EPA ID number.**
- **Must ensure that employees are familiar with waste handling procedures.**
- **Must keep track of shipments.**



Universal Waste and Generator Status

- **THERE IS NO CONNECTION BETWEEN THE STATUS AS A UNIVERSAL WASTE HANDLER AND THE TRADITIONAL STATUS AS A RCRA GENERATOR**
- **A company can be a large quantity handler of universal waste and a small quantity generator of hazardous waste (and vice versa)**
- **Universal waste handler status does not affect your generator fees – ONLY YOUR GENERATOR STATUS**



Transporter Requirements

- **Must comply with US Department of Transportation (DOT) regulations in 49 CFR parts 170 – 180.**
- **Large and small quantity handlers may transport their own waste, but must comply with DOT requirements.**
- **May store universal waste in transfer facility for ten days or less.**



Destination Facilities

- **Destination facilities treat, store, recycle, or dispose of universal waste.**
- **Destination facilities are subject to all parts of hazardous waste management regulations.**

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End of Second Session